Rocky Flats Citizens Advisory Board Recommendation 97-9

to the U.S. Department of Energy

Recommendations on Highly Enriched Uranium Vulnerabilities

Approved August 7, 1997

INTRODUCTION

The Highly Enriched Uranium Vulnerabilities study was conducted at the Rocky Flats Environmental Technology Site in the Spring of 1996. Since that time, the Rocky Flats Citizens Advisory Board (RFCAB) notes the accomplishment of the site in addressing and providing remediation for some of the vulnerabilities that were designated for corrective action. Especially noteworthy are the removal of the highly enriched uranyl nitrate solutions and the progress that has been made in shipping some of the site's inventory of highly enriched uranium metal. However, many of the designated vulnerabilities are still open due to lack of priority or funding. The Rocky Flats Citizens Advisory Board is concerned that these open vulnerabilities are in the areas that could affect worker health and safety as well as the neighboring communities.

Based on the Board's review, we are providing the following recommendations.

OVERALL MANAGEMENT

- RFCAB desires the continued commitment of site management to resolve and eliminate the remaining vulnerabilities. Buildings 771, 776 and 777 at the site are listed among the ten most vulnerable HEU facilities in the nation. Although the liquid HEU has been drained and shipped offsite, there is still concern for the six tons of HEU metal being stored.

  Therefore, RFCAB recommends the remaining HEU vulnerabilities be given the priority and funding in order to be addressed and closed as soon as possible. RFCAB would like to understand better how DOE views the prioritization of these remaining vulnerabilities and requests information on the methodology used in determining such priority.

- The integrating contractor, Kaiser-Hill, has multiple layers of subcontractors beneath them. Problems with accountability, communication, safety and lack of training have been noted (Reference RF-SITE-001, Management and Integration (M&I) Institutional Weaknesses and

Vulnerabilities).

On May 1, 1997, RFCAB forwarded a recommendation to DOE asking for a review of the performance based contract between DOE and Kaiser-Hill (Reference RFCAB 97-2, Implementation of the Performance-Based Contract Between Kaiser-Hill and the Department of Energy). RFCAB would like to add to the scope of that review by including the problems with accountability, communication, safety and lack of training that have resulted from the use of multiple layers of subcontractors at the site. Ideally, RFCAB would like to see an integrated program of safety and employee training developed that would be standard from tier one contractors through all remaining levels of sub-contractors.

INSTITUTIONAL PROBLEMS

- Due to layoffs, there exists a shortage of experienced criticality engineers. Work demands on remaining engineers has increased dramatically with the accelerated cleanup and building closure (Reference RF-SITE-002, Criticality Safety Institutional Weaknesses and Vulnerabilities; RF-SITE-003, Layoffs/Loss of Experienced Personnel; and RF-SITE-007, Implementation of Criticality Safety Controls for Materials Storage in Building 707 and 776/777).

  A criticality database should be developed as a means to retain institutional memory for processes and procedures conducted at the site during production. The database should contain information on prior site processes and procedures such as material storage and handling that could result in a criticality occurring.

  Streamlined procedures for evaluating and prioritizing requests for criticality reviews should be developed in order to simplify the present process and to provide priority for review requests requiring immediate attention.

- Layoff and turnover of experienced personnel within the Department of Energy has created loss of institutional memory and low worker morale within the organization (Reference RF-SITE-003, Layoffs/Loss of Experienced Personnel).

  All levels of DOE management personnel should be required to review existing historical information databases such as the Historical Release Report *and any pertinent videos that may have been produced in the past. The Board believes that this will aid the Department in reconstructing a large portion of the institutional memory that has been lost. This information will be important for decommissioning, deactivation and deconstruction of site buildings. Worker morale and safety training also should be high management priorities.*

- Several of the HEU vulnerabilities are similar to the plutonium vulnerabilities. Some of the corrective actions taken that are listed as "closure" do not result in the elimination of the inherent risk. In some cases, the vulnerabilities have been merged with others, or the site has determined a

risk to be acceptable.

RFCAB recommends that a new system be developed for describing actions taken on the vulnerabilities. The word "closure" should only be used to describe situations where the inherent risk has been eliminated, not for circumstances where the risk is accepted or the vulnerability is folded-in-with-another.

- Authorization bases for many buildings and facilities have not been completed. Among all the facilities requiring these bases which form the foundation for safe operations, only Building 771 has one in place (Reference RF-SITE-002, Authorization Basis Documentation in Building 371 Does Not Address Current Hazards and Operations; RF-771-005, Authorization Basis Documentation in Building 771 Does Not Address Current Hazards and Operations; RF-776/777-002, Authorization Basis Documentation in Building 776/777 Does Not Address Current Hazards and Operations; RF-881-003, Authorization Basis for Building 881 Does Not Address Current Hazards and Operations)

  RFCAB recommends that the Authorization Bases for all site buildings be completed as soon as possible.

FACILITIES AND MATERIALS VULNERABILITIES

- Holdup of unknown quantities of HEU in several buildings poses a risk to the workers and community due to radiological exposures. There is a chance that a criticality could occur in Building 881 due to uncharacterized or unaccounted for materials in the ducts. An explosion due to the buildup of hydrogen gas in the piping systems also could occur (RF-881-002, Unknown Holdup in Piping and Ducts in Building 881).

  Characterization of the unknown holdup in Building 881 should be achieved as soon as possible. It is not acceptable to place the safety of workers at risk due to lack of priority and funding. Waiting for the buildings to be taken down to determine the amount of holdup poses an unnecessary risk.

- Characterization of waste drums containing unknown materials in Building 881 has not been prioritized or funded. The site indicates there is a lack of priority, manpower and funding to remove the drums to Building 371 for radiological characterization. Although the drums have not been characterized, the site believes that they do not contain dangerous materials (Reference RF-881-001, Unknown Material in Drums in Building 881).

  Characterization, both radiological and chemical, as well as physical inspection should proceed as soon as possible on these drums. The risk to workers associated with uncharacterized materials in drums is not acceptable.

- Fire safety vulnerabilities have not been addressed. A fire protection weakness was noted in all buildings (Reference RF-SITE-004, Fire Protection Program Weaknesses in all Buildings; RF-SITE-006, Inadequate Control of Fire Suppression Deluge Systems Protecting HVAC Plenums in Buildings 371 and 771; RF-886-001, Excessive Combustible Loading in Room 101, Building 886).

Walkdowns of site buildings to determine fire hazards should be completed as soon as possible. A procedure for ongoing inspection for fire hazards in each building should be instituted.

Fire alarm systems must be upgraded. Even though a building is unoccupied or has minimal use, it still poses a fire hazard.

Installation of valve covers on Building 371 pressure flow control valves used to control the volume of water introduced into the filter plenums by the HVAC sprinkler systems requires immediate attention.

RFCAB recommends that a high priority be given to removal of the excessive materials in Room 101 of Building 886.

The Rocky Flats Citizens Advisory Board is a community advisory group that reviews and provides recommendations on cleanup plans for Rocky Flats, a former nuclear weapons plant outside of Denver, Colorado.

Back to Index CAB Recommendations

Home | Citizens Advisory Board Info | Rocky Flats.Info | Links | Feedback & Questions